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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,323	06/24/2003	Kie Y. Ahn	1303.101US1	9045
21186	7590	04/28/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			TOLEDO, FERNANDO L	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/602,323

Applicant(s)

AHN ET AL.

Examiner

Fernando Toledo

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 69-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 69-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Response to 312 amendment/withdraw from issue

### Opening Comments

#### Reopening Prosecution and Withdraw From Issue

In light of obvious type double patenting issues, the Examiner has decided to withdraw the present application from issue. A new office action outlining the rationale for the withdraw follows.

#### Amendment Under 37 CFR 1.312

The Examiner has considered the amendment filed 2/7/06 and would have entered such an amendment but for the claim numbering issues. The examiner had cancelled claims 16-42 in the prior office action and thus applicant's response does not so reflect the change by adding (duplicating) claims 16-42 as new claims 73 and beyond. The Examiner does indicate at the end of this letter the scenario if those claims were present in the case.

#### Rejections Based Upon Obvious Type Double Patenting

##### Rationale

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

### The Rejections

Claims 1-15 and 69-72 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 11-16, 17, 21, 29 and 37 of copending Application No. 10/602315 in view of Song US Patent Application Publication 2002/0177282.

Claims 1-15 and 69-72 detail the manner of creating a dielectric layer composed of a hafnium oxide/lanthanide oxide combination layer. The claims of the present application and the copending are nearly the same with the exception in the manner of generating the hafnium oxide layer—the present application uses atomic layer deposition (ALD) and the copending application uses chemical vapor deposition (CVD). ALD is a form of CVD and the modification of the prior art is seen as an obvious development from the prior art in light of the Song reference. Song teaches that a hafnium oxide layer can be generated by either ALD or CVD and that ALD will provide more control of the layer thickness. See paragraph 0023. As the applicant has not provided any distinct benefit or advantage of ALD over CVD and as the manner of generation of the layers by ALD and CVD is seen as equivalent, it would have been

Art Unit: 2823

obvious to one of ordinary skill in the art to modify the manner of generation of the hafnium oxide layer of the copending application with the teachings of Song in order to have more control of the deposition layer's thickness.

This is a provisional obviousness-type double patenting rejection.

#### Closing Comments

While the examiner has only rejected claims 1-15 and 69-72, it should be noted that the claims cancelled by the examiner in the prior examiner's amendment would have been rejected under the same rationale as being obvious variations from the prior art.

#### Contact Information

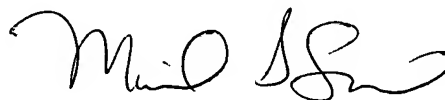
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fernando Toledo whose telephone number is 571-272-1867. The examiner can normally be reached on Monday-Fridays 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fernando Toledo  
Examiner  
Art Unit 2823

mss



MATTHEW SMITH  
SENIOR PATENT EXAMINER  
TECHNOLOGY CENTER 2800

<b>Response to Rule 312 Communication</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/602,323	AHN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Fernando Toledo	2823	

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1. ☒ The amendment filed on 07 February 2006 under 37 CFR 1.312 has been considered, and has been:

a) ☐ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☒ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

*As claims 16-41 were cancelled in the examiner's amendment, these claims cannot be reentered as written in the 312 amendment as once a claim is cancelled it is cancelled. However, these claims should be reinstituted in the case as the examiner is reopening prosecution based upon an Obvious type double patenting issue exists therein.*